EXHIBIT E

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.

Plaintiffs,

vs.

TYSON FOODS, INC., et al.,

Defendants.

CASE NO. 05-CV-329-GKF-PJC

TRANSCRIPT OF PROCEEDINGS
JULY 28, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
MOTION HEARING, VOLUME I

APPEARANCES:

For the Plaintiffs:

MR. DAVID RIGGS
MR. DAVID P. PAGE
MR. RICHARD T. GARREN
Riggs Abney Neal Turpen
Orbison & Lewis
502 W. 6th Street
Tulsa, OK 74119

(APPEARANCES CONTINUED)

For the Plaintiffs:

MR. ROBERT A. NANCE
MS. KELLY FOSTER
Riggs Abney Neal Turpen
Orbison & Lewis
5801 Broadway, Extension 101
Oklahoma City, OK 73118

MR. LOUIS W. BULLOCK
Bullock Bullock & Blakemore
110 W. 7th St.
Suite 770
Tulsa, OK 74119

MR. FREDERICK C. BAKER
MS. ELIZABETH CLAIRE XIDIS
Motley Rice LLC
28 Bridgeside
P.O. Box 1792
Mount Pleasant, SC 29465

For Tyson Foods:

MR. ROBERT W. GEORGE
Tyson Foods, Inc.
2210 West Oaklawn Drive
Springdale, AR 72701

MR. JAY THOMAS JORGENSEN
MR. GORDON D. TODD
Sidley Austin LLP
1501 K St. NW
Washington, DC 20005

MR. PATRICK MICHAEL RYAN
Ryan Whaley Coldiron and
Shandy PC
119 N. Robinson, Rm 900
Oklahoma City, OK 73102

For Cargill:

MR. JOHN H. TUCKER
MS. THERESA HILL
Rhodes Hieronymus Jones
Tucker & Gable
100 W. 5th St., Ste 400
Tulsa, OK 74103

(APPEARANCES CONTINUED)

For Cargill:
MR. DELMAR R. EHRICH
MS. KRISANN C. KLEIBACKER LEE
Faerge & Benson
90 S. 7th St., Ste 2200
Minnaepolis, MN 55402

For Simmons Foods:
MR. JOHN R. ELROD
MS. VICKI BRONSON
Conner & Winters
211 E. Dickson St.
Fayetteville, AR 72701

For Peterson Farms:
MR. A. SCOTT MCDANIEL
MR. PHILIP HIXON
MS. NICOLE LONGWELL
McDaniel Hixon Longwell & Acord PLLC
320 S. Boston, Ste 700
Tulsa, OK 74103

For George's:
MR. WOODY BASSETT
MR. VINCENT O. CHADICK
Bassett Law Firm
P.O. Box 3618
Fayetteville, AR 72702

For Cal-Maine:
MR. ROBERT SANDERS
Young Williams P.A.
P.O. Box 23059
Jackson, MS 39225

MR. ROBERT P. REDEMANN
Perrine McGivern Redemann Reid Berry & Taylor PLLC
P.O. Box 1710
Tulsa, OK 74101

was to point this out that -- how the biomarker is being used, but we know about fecal bacteria, first of all, because we know about the amounts.

Dr. Teaf did a mass balance for fecal bacteria in poultry waste, and that's part of his testimony before this Court. And so like the mass balance was done for phosphorus, mass balance was done for fecal coliform bacteria in the different animals.

All researchers in environmental cases look at mass loadings as a fundamental, basic fate and transport analysis. Who is contributing to the watershed the most of the substance of concern.

THE COURT: But if you don't have what has been referred to as the traditional fate and transport, then you've got the alternate source problem that at this point where you're testing, yes, you're showing the biomarker, but you have alternate sources, as in potential cattle or human.

MR. PAGE: Your Honor, what I'm describing to you about a mass balance is traditional fate and transport analysis. The point is, is that if you -- one of the lines of evidence is that if you know who's contributing the most of a constituent, the likelihood is, is that when you find the constituent pervasive around the watershed, it's going to be from those contributors.

There's other lines of evidence also, Your Honor,

Fecal, which is what this case is about, is 6. Total, which concludes coliforms that live on plants, is 30.

THE COURT: Well, but E. coli as well down at the bottom. He's right.

MR. JORGENSEN: E. coli is up at the top. There's a special footnote there on the bottom one. See that?

THE COURT: What is LT2 enumeration? Can any lawyers answer that question?

MR. BULLOCK: I guess -- that just is the sum of my argument, is that if we're going to interpret these technical matters, we should have somebody that actually has some expertise in them. The record before the Court is clear.

THE COURT: Thank you. With regard to the Daubert motion on Cowan, which is No. 2072, the Court finds and concludes that he is a qualified statistician and does not require experience in watershed modeling to testify.

The reasoning and methodology underlying Cowan's statistical testimony is mathematically valid and can properly be applied to the facts and discipline in issue. That reasoning as set forth may be considered in connection with the issue of whether the number of samples here was sufficient.

As to the motion to exclude the testimony of Dr. Valerie J. Harwood, No. 2030, Dr. Harwood's methodology arises out of the novelty of its application to an entirely new area which required the development of primers that had not

been previously identified. The methodology is untested and was devised solely for this litigation. No scientist has previously identified any type of bacteria or a specific strand of DNA that is unique to poultry litter. The novelty of the method is not the use of PCR; rather, it is the claim that these newly designed primers isolate and reproduce a strand of DNA carried by bacterium unique to poultry litter.

Dr. Harwood's methodology has been twice rejected by peer reviews, specifically the Journal of Applied and Environmental Microbiology for scientific reasons. The reviewers specifically noted, "the biased language."

Moreover, number one, the biomarker was developed without adequate confirmation of its absence from other species. The conclusion assumes the absence of the biomarker from animals other than poultry. The peer reviewers criticized Dr. Harwood's failure to include sufficient control samples to show that the biomarker is not normally found in at least some soil and runoff without the presence of poultry litter.

Number two. The biomarker does not correlate with indicator bacteria. Although Dr. Harwood reports that the biomarker correlates strongly to enterococci and positively with E. coli, she made no effort to show that the biomarker and the indicator bacteria maintain a correlation during land application on field surfaces, in runoff waters, in the river, in groundwater, in wells, and in recreational waters or any of

the above.

Plaintiff did not study the fate and transport characteristics -- or, rather, Dr. Harwood -- of the bacterium or any other bacterium in the IRW.

Given the alternate sources for fecal indicator bacteria and potential alternate sources of the biomarker, the assumption that the correlation is maintained from chicken house to recreational waters is unreliable.

Number three -- or -- and related thereto.

Number three. The theory is not substantiated by traditional fate and transport study. The bacterium -- specifically that the bacterium moves in the environment at the same speed as fecal bacteria in poultry waste. Thus, Dr. Harwood fails to analyze whether the fecal bacteria found in conjunction moved together with the brevibacterium from poultry litter or were from other sources.

Number four. The poultry-specific biomarker is not specific to poultry. Plaintiffs found the same genetic sequences in geese and ducks. They found it in every bird species they tested.

Dr. Harwood does not yet know whether her DNA sequence is carried by other species of brevibacteria or other types of bacteria found in the IRW or how many other species in the IRW carry the bacteria.

Dr. Myoda isolated the biomarker in other materials:

Unused bedding material, other water foul samples, and cow hide. Importantly, the biomarker's ability to persist for long periods of time suggests that a scientist cannot discount the need to test other nontarget fecal sources.

Peer reviewers from the Journal of Applied and Environmental Microbiology noted Dr. Harwood's failure to account for alternate sources of bacteria.

Number five. The biomarker process and conclusions are inconsistent with applicable statistical standards, as Dr. Cowan explains, without more sampling, which apparently Dr. Harwood is continuing to do, and it is an important area, but the tests prove without more sampling, neither the presence of the biomarker generally in poultry nor the absence of the biomarker in other species.

In addition, the plaintiffs developed the biomarker from only two samples gathered from proximate locations, which increases the likelihood that the samples will be similar.

Number six. Dr. Harwood failed to account for alternate sources of fecal indicator bacteria, which I've already discussed. But as one peer reviewer put it, "the analysis of relationships between E. coli or enterococci density and putative poultry marker concentration in water is incomplete."

In any given water sample, fecal contamination from any number of sources may be present. Thus, any validation for

a relationship between poultry marker and fecal indicator must take into account the expected level of poultry contamination.

Dr. Harwood's conclusions regarding risks to human health in the IRW from fecal indicator bacteria from poultry litter are unsupported by the data.

For instance, 80 percent of campylobacter illness and 95 percent of salmonella illness is food borne, not waterborne. Moreover, as one peer reviewer stated, "The relationship of fecal indicators with human health risk was developed at sites contaminated primarily with human waste. This relationship is not expected to be the same for water contaminated with feces from nonhuman sources." That's from the peer review.

In contrary to the argument that Dr. Harwood reached her health risk conclusion independent from her work on the biomarker, her Rule 26 report recognizes that the biomarker is her link between poultry litter and allegations of health risk from human pathogens such as salmonella and campylobacter.

Moreover, Dr. Harwood's proposed article stated that the magnitude of the impact cannot be quantified with the limited number of environmental samples processed.

Now, that still raises the issue and does not address the issue raised by Mr. Page as to whether she might be able to testify to other more generalized health risks from fecal indicator bacteria, and I'm not deciding that here today.

Finally, the hold times that Dr. Harwood relies upon for nearly three-quarters of the water samples failed to comply with the EPA mandated six-hour hold time limits for enumerating bacteria in recreational water samples. The 1953 English study that Dr. Harwood cites states that hold time violations can bias the enumeration either up or down, based upon prevailing conditions.

Now, finally, I need to rule on 2090. I'll take a short recess and put those thoughts together and will be back.

(Whereupon a recess was had.)

THE COURT: Before we address 2090, what are your thoughts with regard to what the record should show in the minute relative to the Harwood motion? Mr. Overton, who's done this longer than any of us and knows how this is done better than any of us, said, well, Judge, I heard you saying it was granted in part and denied in part. And to the extent that it does not completely foreclose Harwood testimony in the nature of the topics that Mr. Page raised, that would be correct. We haven't addressed these other issues.

Mr. George.

MR. JORGENSEN: Your Honor, we believe that's a reasonable docket entry for that motion.

THE COURT: All right. We'll do that. We'll show that motion granted in part and denied in part.

After putting something together on 2090, I think the